

UNIVERSITY OF BAHRAIN

COLLEGE OF INFORMATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE

ITCS242: Final Lab Test

Date: JUNE 2012

Duration: 90 minutes

1) Your program **MUST** start with the following comments:; Student id: **XXXXXXXX**Student Name: **XXXX XXXX**Section #: **1** or **2** or **3**; **ITCS 242 Final Practical Test**Date: **JUNE 4, 2012**Serial #: **XX**2) After you finish rename the file named **main.asm** with your id: **XXXXXXXX.asm**

Use the Visual Studio to write a complete Assembly program as described below:

- 1) In the data segment define 3 unsigned variables of byte type: **HOURL**, **MIN** and **SEC** used to store the 3 parts of a time: **hour:min:sec**. Define also a doubleword **RESULT** to store how many seconds in the given time. You may need to define various messages.
- 2) Define a procedure named **TIMEB** that accepts 3 unsigned memory values representing the parts of a given time: **H:M:S**, calculates and returns ONE result named **X** representing the number of seconds in a given time. Hint: One hour = 60 minutes, and One minute = 60 seconds.
- 3) In the procedure named **start** perform the following tasks:
 - a) Randomly generate 3 values: **HOURL** in the range from 0 to 23, **MIN** in the range from 0 to 59, and **SEC** in the range from 0 to 59 and store them in the corresponding predefined variables.
 - b) Calls the above developed procedure **TIMEB** to calculate and return One value named **RESULT** representing how many seconds in a given time: **HOURL: MIN: SEC**.
 - c) Print the values **HOURS**, **MIN**, **SEC** and **TIME** in a proper format as shown below.

Sample runs:

```

THE TIME: 23:59:59 HAS: 86399 SECONDS.
THE TIME: 23:57:14 HAS: 86234 SECONDS.
THE TIME: 2:3:20 HAS: 7400 SECONDS.
THE TIME: 3:26:55 HAS: 12415 SECONDS.
THE TIME: 7:45:49 HAS: 27949 SECONDS.
THE TIME: 8:49:10 HAS: 31750 SECONDS.

```

GOOD LUCK !